

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) ~~A Position-position-sensitive detector for measuring charged particles comprising a crystalline substrate and a surface region, which is formed by the surface region comprising an amorphous layer with a structured, metallic layer disposed above it, characterised in that wherein the structure of the metallic layer is continued~~ continues through the amorphous layer and at least partially into the crystalline substrate, amorphous layer.

2. (Canceled)

3. (Currently Amended) ~~The Position-position-sensitive detector according to claim 1, characterised in that wherein the amorphous layer is formed from germanium or silicon.~~

4. (Currently Amended) ~~The Position-position-sensitive detector according to claim 1, characterised in that wherein the metallic layer consists of~~ comprises aluminium, palladium or gold.

5. (Currently Amended) ~~The Position-position-sensitive detector according to claim 1, characterised in that wherein the crystalline region beneath the amorphous layer~~ substrate is formed of germanium, silicon or a III-V compound.

6. (Currently Amended) ~~The Position-position-sensitive detector according to claim 1, characterized in that wherein the structure of the metallic layer is formed from segments, which provide having a mutual spacing of less than 200 μm , in particular, a spacing of less than 100 μm , by particular preference less than 20 μm .~~

7. (Currently Amended) ~~The Position-position-sensitive detector according to claim 1, characterised in that wherein the amorphous layer is applied to~~ disposed on a semiconductor material.

8. (Currently Amended) ~~The Position-position-sensitive detector according to claim [[1]] 3, characterised in that wherein the amorphous layer is not doped, provides an electrical conductivity, which is substantially less than the conductivity of the material disposed beneath the amorphous layer.~~

9. (Original) Tomograph or Compton camera with a detector according to claim 1.

10. (New) The position-sensitive detector according to claim 6, wherein the mutual spacing is less than 100 μm .

11. (New) The position-sensitive detector according to claim 6, wherein the mutual spacing is less than 20 μm .

12. (New) A method of producing a position-sensitive detector for measuring charged particles, comprising:

providing a crystalline substrate;

disposing on the substrate an amorphous Gallium layer;

disposing on the amorphous Gallium layer a metallic layer;

removing portions of the metallic layer, the amorphous Gallium layer and the crystalline substrate such that at least one structured electrode is formed.

Amendments to the Specification other than the Claims:

Please add the heading Background of the Invention before the paragraph beginning at p. 1, line 10.

Please replace the paragraph beginning at p. 1, line 22, with the following:

If a charged particle or photon strikes the detector, it produces ~~pairs of electron-holes~~ electron – hole pairs in the region of the crystalline germanium. The relevant charge migrates to the corresponding contact, where it is read out. The position-dependent charge measured presents a measure for the required information.

Please replace the paragraph beginning at p. 2, line. 25, with the following:

To obtain a position-sensitive detector, the n and/or p layers are provided with structures. The structures can be produced using a lithographic method. Such lithographic methods are already known within the general specialist knowledge. With one photo-photolithographic method, a photo-sensitive paint-coating is applied to the surface, which is to be structured. The photo-sensitive paint-coating is partially exposed through a ~~shadow~~-mask. Using plasma etching, grooves are then introduced into the surface in the exposed parts of the photo-sensitive paint-coating. The n layer and/or p layer is then structured. This should be understood to mean that the layer acting as the n contact or p contact is subdivided into individual segments, which are separated from one another by grooves. These separated elements are frequently referred to in the literature as position elements. Finally, the paint-coating layer may be removed, for example, by chemical etching.

Please add the heading Summary of the Invention before the paragraph beginning at p. 5, line 7.

Please add the following heading and paragraphs before the paragraph beginning at p. 5, line 12:

Brief Description of the Drawings

Figure 1 shows a cross section of a detector according to a first preferred embodiment

Figure 2 shows a cross section of a detector according to a second preferred embodiment

Please add the heading Detailed Description of the Preferred Embodiments before the paragraph beginning at p. 5, line 12.